

IN THE CLAIMS

1. - 24. (cancelled)

25. (currently amended) An isolated haemocyanin polypeptide ~~according to claim 24,~~ comprising at least one amino acid sequence recombinantly expressed in a suitable host cell and selected from the following group:

~~SEQ ID NO:25 (HtH1 domain a + signal peptide),~~
~~SEQ ID NO:26 (HtH1 domain b),~~
~~SEQ ID NO:27 (HtH1 domain c),~~
~~SEQ ID NO:28 (HtH1 domain d),~~
~~SEQ ID NO:29 (HtH1 domain e),~~
~~SEQ ID NO:30 (HtH1 domain f),~~
~~SEQ ID NO:31 (HtH1 domain g),~~
~~SEQ ID NO:32 (HtH1 domain h),~~
~~SEQ ID NO:33 (partial HtH2 domain b),~~
~~SEQ ID NO:34 (HtH2 domain c),~~
~~SEQ ID NO:35 (HtH2 domain d),~~
~~SEQ ID NO:36 (HtH2 domain e),~~
~~SEQ ID NO:37 (HtH2 domain f),~~
~~SEQ ID NO:38 (HtH2 domain g),~~
~~SEQ ID NO:39 (HtH2 domain h),~~
~~SEQ ID NO:40 (partial KLH1 domain b),~~
~~SEQ ID NO:41 (KLH1 domain c),~~
~~SEQ ID NO:42 (partial KLH1 domain d),~~
~~SEQ ID NO:43 (partial KLH1 domain e),~~
SEQ ID NO:44 (KLH2 domain b),
SEQ ID NO:45 (KLH2 domain c),
SEQ ID NO:46 (partial KLH2 domain d),

SEQ ID NO:47 (KLH2 domain g),
SEQ ID NO:48 (partial KLH2 domain h),
~~SEQ ID NO:63 (HtH1 domain a' + signal peptide),~~
~~SEQ ID NO:64 (HtH1 domain h'),~~
~~SEQ ID NO:65 (partial HtH2 domain a),~~
~~SEQ ID NO:156 (complete HtH2 domain a),~~
~~SEQ ID NO:66 (HtH2 domain b'),~~
~~SEQ ID NO:67 (HtH2 domain d'),~~
~~SEQ ID NO:68 (HtH2 domain e'),~~
~~SEQ ID NO:69 (partial KLH1 domain b'),~~
~~SEQ ID NO:70 (KLH1 domain e'),~~
~~SEQ ID NO:71 (KLH1 domain f),~~
~~SEQ ID NO:72 (KLH1 domain g),~~
~~SEQ ID NO:73 (KLH1 domain h),~~
SEQ ID NO:74 (KLH2 domain b'),
SEQ ID NO:75 (KLH2 domain c'),
SEQ ID NO:76 (KLH2 domain d'),
SEQ ID NO:77 (KLH2 domain e),
SEQ ID NO:78 (KLH2 domain f),
SEQ ID NO:79 (KLH2 domain g'), and
SEQ ID NO:158 (partial KLH2 domain h),

or a sequence that shows at least 90% homology to one of the amino acid sequences according to SEQ ID NOs 44-48, 74-79 and 158 over a partial region of 90 amino acids.

~~or a fragment of one of these sequences which has the immunological properties of at least one domain of a haemocyanin.~~

26. - 31. (cancelled)

32. (currently amended) ~~Recombinant~~ The
recombinant haemocyanin polypeptide according to claim 25,
characterized in that the haemocyanin polypeptide comprises
either the sequences SEQ ID NO: 44 to 48 or the sequences
SEQ ID NO:44 to 46, 77, 78, 47, 48 and is KLH2 from
Megathura crenulata, it being possible in each case for the
sequence with SEQ ID NO:44 to be replaced by SEQ ID NO:74,
SEQ ID NO:45 to be replaced by SEQ ID NO:75, SEQ ID NO:46
to be replaced by SEQ ID NO:76 and/or SEQ ID NO:47 to be
replaced by SEQ ID NO:79.

33. (currently amended) ~~Recombinant~~ The
recombinant haemocyanin polypeptide according to claim 25
~~one of claims 24 to~~, characterized in that it is bonded
covalently to viruses, virus constituents, bacteria,
bacteria constituents, DNA, DNA constituents, inorganic or
organic molecules, such as e.g. carbohydrates, peptides
and/or glycoproteins.

34. (currently amended) ~~Recombinant~~ The
recombinant haemocyanin polypeptide according to claim 25
~~one of claims 24 to 33~~, characterized in that the
haemocyanin polypeptide is non-glycosylated.

35. (currently amended) ~~Recombinant~~ The
recombinant haemocyanin polypeptide according to claim 25
~~one of claims 24 to 33~~, characterized in that the
haemocyanin polypeptide is glycosylated.

36. - 37. (cancelled)

38. (currently amended) ~~Pharmaceutical~~ A pharmaceutical composition, comprising a haemocyanin polypeptide according to claim 25 ~~24~~ and physiologically tolerated additives.

39. (currently amended) ~~Pharmaceutical~~ The pharmaceutical composition according to claim 38, characterized in that it is used as an antiparasitic composition, antiviral composition or as an antitumor composition.

40. (currently amended) ~~Pharmaceutical~~ The pharmaceutical composition according to claim 38, characterized in that it is used for treatment of one of the following diseases: schistosomiasis, high blood pressure, surface bladder carcinomas, epithelial carcinomas, ovarian carcinoma, mammary carcinoma, bronchial carcinoma and colorectal carcinoma.

41. (currently amended) ~~Pharmaceutical~~ The pharmaceutical composition according to claim 38, characterized in that it is used as a vaccine.

42. (currently amended) ~~Pharmaceutical~~ The pharmaceutical composition according to claim 38, characterized in that it is used for prevention of cocaine abuse.

43. - 50. (cancelled)